

IDENTIFYING THE ROLE OF SKIN TONE IN CHOOSING THE SUITABLE COLORS FOR OUTFITS & FASHION ACCESSORIES

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ABSTRACT

Skin color is one of the main characteristics of human identity; it ranges from the darkest brown to the fairest hue, each woman has a unique mix of skin, hair and eye coloring (i.e. skin tone).

Certain colors can make a woman look radiant and glowing; while others may make her look pale or tired, selecting clothing items and fashion accessories that complement the natural colors of every woman make her appear healthier and more attractive, skin tone is the most important factor in determining the best colors for each woman.

KEYWORDS: *Skin Tone, Colors, Outfits & Fashion Accessories*

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INTRODUCTION

Fashion is a series of short-term trends (Soloman & Rabott, 2009), it reflects how people (especially women) define themselves; their choices of clothing and accessories express how they see themselves and how they wish to be conceived by others; “when we buy clothes; we buy an identity” (Tungate, 2008).

Women are known to be very choosy when it comes to buying clothes and fashion accessories, choosing outfits in the right colors smoothes and brightens the complexion, minimizes face lines and shadows and brings a healthy glow to the face, it can also help camouflage the flaw parts of the female body and create a visual illusion of a balanced body.

Although some women have an excellent taste in fashion, others lack this ability, the famous cliché “you are what you wear” proves the importance of the fashion choices of any woman informing her identity, body image, and social relations, identifying the skin tone of every woman will help her recognize the colors that make her look radiant and dynamic; hence; develop her fashion skills and sense of style.

Research Problem

The problem of this study can be identified by answering the following questions:

- Do most women know which type of skin tone they belong to?
- Can they recognize the colors that complement their complexion?

Research Hypothesis

This study suggests that choosing outfits and fashion accessories in the appropriate colors for each skin tone; can brighten the skin, make the female wearer look healthier and more attractive.

Research Objectives

- Help females identify their skin tone.
- Help them recognize the right colors for their complexion.
- Provide guidelines on how to choose outfits and accessories in colors that improve their image.

Research Methodology

The study follows both the qualitative and experimental methods.

Theoretical Framework

The type of dress is important to the interpretation of body image and has further implications for responsive attitude (De Long, Salusso-Deonier & Larutz, 1980).

Choosing the best outfits for each woman depends on many factors, color is arguably the most important factor because by making the right choices in clothing and accessories; it is possible for every woman to enhance her look, improve her self-esteem and her acceptance by others.

Certain colors look great on some women but horrible in others, the effect of each color on the overall complexion of any woman depends on the color of her skin, hair, and eyes; i.e. her skin tone.

SKIN COMPLEXION, TONE, AND UNDERTONE

“Each of us is a natural harmonious mix of skin color, hair color, and eye color; each person has a unique color harmony” (Sandra Curtis Lasky, 1988).

An individual's skin color is a product of both his/her biological parent's genetics; in general, human skin color can be grouped into three main categories: blackish, brownish, and whitish (Rahmadi Kurnia, Meza Silvana & Ikhwana, 2015). “Melanin” is the main substance that affects the color of human skin, as well as the distribution of ultraviolet rays UVR, people living in areas close to the equator; which receive higher amounts of UVR; tend to have darker skin colors than those who live closer to the poles.

Skin complexion is the natural color, appearance and overall look of the skin, eyes, and hair; it differs from one human race to another and is a result of environmental and biological differences; e.g.: Africans generally have a dark complexion; while Europeans have a fair one.

Skin tone (also called skin shade/skin surface tone) is basically the visible color of the skin, it can change depending on many factors; such as exposure to sun, reaction to medications, illness ... etc.

There are three basic categories of skin surface tone: light, medium, and dark; which include the sub-categories of very light, light medium, medium, medium dark and deep dark.

Skin undertone is the subtler, more muted color that lies underneath the skin; and while the surface skin tone may change; it is always determined by the skin undertone which never changes, regardless of any factor; for example; the skin undertone will remain the same no matter how much sun it is exposed to.

Skin undertone comes from three pigments; melanin (brown), carotene (yellow) and hemoglobin (red), the particular combination of these pigments gives the skin its unique undertone.

It is important to realize that the color of the skin surface tone can be different from its undertone; for example; the surface tone may appear reddish, but its undertone may be golden or yellow, that is why the skin undertone must be identified in order to understand the real skin color and form the basis of the overall skin tone, most beauty, and fashion experts recommend using the undertone rather than the surface tone to determine the best colors for each woman.

CATEGORIZATION OF SKIN UNDERTONES

The confusion about the skin undertone and its surface tone is the reason that people sometimes choose colors that may look great on others but distasteful to them. As mentioned above; understanding the real color of the skin is mostly about discovering its undertone; the color that comes from underneath the skin and affects its overall hue.

Human skin color (figure 1) comes in a very wide range of tones; and there are several ways to categorize skin undertones, the first and basic classification is cool, warm; and sometimes neutral; undertones, which can be identified as follows:

Cool Skin Tones: have blue, red, pink, or purple undertones.

Warm Skin Tones: have yellow, golden, peach, olive or brown undertones.

Almost every person falls under one of the above two categories, but some people have no obvious undertone, or they may have a mix of undertones, so they are classified to be **neutral skin toned**.



Figure 1: Basic Classification of Skin Tones

Another classification for skin tones (figure 2); known as the “Fitzpatrick scale”; categorizes skin tones according to the skin reaction to the sun, this classification was developed by “Thomas B. Fitzpatrick” in 1975; and includes six types of skin tones, as follows:

Type 1 (very fair): always burns, never tans.

Type 2 (fair): usually burns, rarely tans.

Type 3 (medium fair): sometimes burns, sometimes tans.

Type 4 (moderate brown): sometimes burns, usually tans.

Type 5 (brown): rarely burns, always tans.

Type 6 (dark brown): never burns, always tans.



Figure 2: The Fitzpatrick Scale for Skin Tone

All skin complexions; from very fair to deep dark; have cool or warm undertones, so the skin undertone is not really about how light or dark the skin is, another deeper classification for skin undertone known as “The Four Seasons” classification uses the four seasons of the year to describe skin tones and the best colors for each type. This classification was developed by Carole Jackson in 1973, it differs from the “Fitzpatrick” scale that is doesn’t measure how dark or pales the skin is, it is based on the fact that nature is divided into four distinct seasons, each with its own harmonious colors; and that each person has a unique skin tone; as well as hair and eye coloring; that is complemented by the color palette of one of the four seasons.

The Four Seasons Classification for Skin Tones

Because color is one of the most exciting dimensions in nature, the comparison between human skin tones and the color palettes of nature, provides a more aesthetic way to describe the coloring of each individual.

The four seasons color system is both efficient and logical, the two brightest seasons of the year (Spring and Summer) contain the brightest colors in their palette; and the two seasons with less daylight (Autumn and Winter) contain the colors that are least bright.

The “Four Seasons” classification (figure 3) includes four types of skin tones; two of which (Summer & Winter) have cool undertones; while the other two (Spring & Autumn) have warm undertones, as follows:

Summer: this type has cool undertones (blue, red or pink), it is characterized with a cool and muted complexion. Summer is the brightest and most delicate skin tone type, as the colors of hair and eyes contrast gently against the color of the skin, therefore seems soft and fresh.

Winter: Has cool undertones (blue, red or pink) as well, with a cool and clear complexion. Winter is characterized by an overall deep look with less brilliancy of colors than summer, the colors of hair and eyes contrast sharply against the color of the skin, therefore seems more intense and vivid.

Spring: has warm undertones (yellow or peachy), with a warm and clear complexion, its colors are yellow- based. Spring has clear colors, it is never muted or extremely darkness, only light colors of hair and eyes.

Autumn: has warm undertones (golden, orange or bronze), its complexion is strong with both clear and muted colors. Autumn colors are golden-based, with low contrast between hair, eyes and skin, but with a darker and less delicate look than spring.



Figure 3: The Four Seasons Skin Tone Classification

Sub-Seasons of Skin Tone

As explained, the seasonal type of skin tone depends on the skin undertone, the color of hair and eyes; and the degree of contrast or similarity between them.

There is a secondary factor that further narrows down each seasonal color palette, this factor depends on each season's most defining quality: light, deep, clear, soft, warm or cool.

According to these qualities, every season is divided into three sub-seasons; each of them has typical dominant characteristics of one of the main four seasons (e.g. Cool or warm undertone) making it the dominant season of the skin tone, on the other hand, it also has different intensities (e.g. Depth of hair and eye color) which flows towards another main season, which is the second season of the skin tone.

The coloring of people in each season varies in intensity, most people wear all their colors well, but some; depending on their hair color or depth of their skin tone; wear some colors best near their faces, while other colors will look better when worn far from the face. For example; pale or soft colors are best worn close to the face of people with light skin tones, while bright and dark colors look better for people with dark skin tones.

The four seasons' sub-classification allows each main season of the skin tone to choose colors from the palette of its second season, but in different shades or intensity.

The sub-seasons of skin tone are figure 4:

Summer

- **Soft Summer:** neutral coloring of the skin, hair, and eyes, secondary season: Autumn.
- **Light Summer:** only light coloring of skin, hair, and eyes, secondary season: Spring.
- **Cool Summer:** cool coloring with no warmth of skin, hair, and eyes, secondary season: Winter.

Winter

- **Clear Winter:** clear and bright coloring of skin and eyes with dark hair, secondary season: Spring.
- **Deep Winter:** dark coloring of the skin, hair, and eyes, secondary season: Autumn.
- **Cool Winter:** definite cool coloring with no warmth of skin, hair, and eyes, secondary season: Summer.

Spring

- **Clear Spring:** high contrasted and saturated coloring of skin, hair, and eyes, secondary season: Winter.
- **Light Spring:** light coloring of skin, hair, and eyes, secondary season: Summer.
- **Warm Spring:** strictly warm coloring of skin, hair, and eyes, secondary season: Autumn.

Autumn

- **Soft Autumn:** a mix of warm and cool coloring of skin, hair, and eyes, secondary season: Summer.
- **Deep Autumn:** deep, warm and muted coloring of skin, hair, and eyes, secondary season: Winter.

- **Warm:** definite warmth in the coloring of skin, hair, and eyes, secondary season: Spring.



Figure 4: The Sub-Seasons Skin Tone Classification

How to Identify Skin Tone Type

In order to help women choose the colors that complement their skin tone, the fashion industry classifies skin tones first into the basic two types: warm and cool, then divides each type into two seasons; i.e. summer & winter is the coolest types, spring & autumn are the warm types; depending on the natural color of hair and eyes.

Step 1: Warm or Cool Undertone

There are several ways to determine whether the skin undertone is cool or warm, among which are:

Veins: check the veins in the underside of the wrist, blue or purple veins mean cool undertone, while green or olive veins means warm undertone.

Reaction to the sun: skin that burns instead of tans is cool-toned, while skin that tans easily rather than burns is warm-toned.

Effect of silver & golden jewelry: compare the effect of silver and gold jewelry on the skin, cool skin tone is flattered by silver jewelry; while warm skin is brightened by golden jewelry.

Effect of a white sheet of paper: check the effect of a white paper on the face; in natural lighting and without any makeup; if the skin looks pink, rose, blue or red, then it has cool undertone; if it looks yellow, green, golden or orange; it has warm undertone.

Step 2: Which Season

Determining which season the skin tone belongs to depends on the natural color of hair and eyes (figure 5):

Summer: light colors of hair and eyes

Hair: light to medium ash blonde, ash brown, lighter than medium brown

Eyes: blue, grey-blue, light grey, grey-green, green, grey-hazel, hazel, light brown

Winter: dark hair and strongly colored eyes

Hair: black-brown, from deep brown to jet-black

Eyes: turquoise, violet, violet-blue, grey-blue, grey-green, yellow-green

Spring: light colors of hair and eyes

Hair: light blonde, blonde, deep gold, Auburn, coppery red, light golden-brown

Eyes: turquoise-blue, blue, blue-grey, topaz, green, amber, hazel

Autumn: dark colors of hair and eyes

Hair: medium to dark golden-blonde, red, copper, medium to dark brown, charcoal black

Eyes: dark blue, deep green, olive-green, gold-green, hazel, medium to dark brown

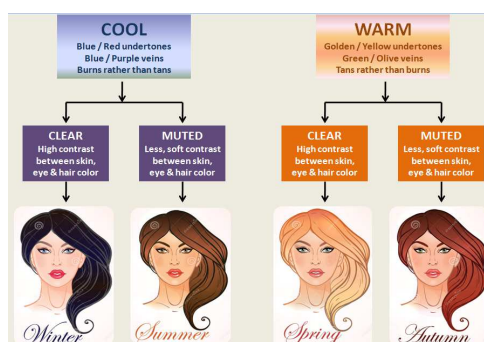


Figure 5: How to Identify Skin Tone Type

FASHION ACCESSORIES

Accessories are the wearable non-clothing items that are added to an outfit to complete it; jewelry, bags, and shoes are the most recognized fashion accessories; but they also include belts, scarves, watches, eye wears, gloves etc (figure 6). Accessories give a complete and polished appearance to any outfit that confirms the personal style and individuality of its female wearer.

Outfits, in general, are categorized according to the time, place and occasion during which they are worn; they can be formal, dressy, casual or sporty; but because of fashion changes so fast; many women can't afford to buy their clothes according to the latest trends, they prefer classic designs with good quality.

The beauty of fashion accessories is that they can make clothes more versatile by altering the mood and image of an outfit, they can be easily changed and they can transfer a simple or classic outfit to a formal or glamorous one.

“Never underestimate the power of accessories; they are the touches to an outfit that express individuality and style” (Marjorie M. Beker, 2007), accessories provide a fun and inexpensive way to create excitement in every woman's wardrobe, through wise choices of accessories, any woman can revive an old outfit, give an extra edge to an understated normal piece of clothing, wear the same outfit on different occasions or even express her religious beliefs or political views.



Figure 6: Different Fashion Accessories

Jewelry as Fashion Accessories

Jewelry is the perfect way to bring life to an outfit, enhance a woman's appearance and brighten her features; it is almost the first thing that people notice about an outfit, it only takes one statement piece of jewelry to make the whole outfit stand-out.

Jewelry comes in all forms, designs, colors, and sizes; the key is to work the outfit around one eye-catching piece, or coordinate different pieces into the outfit in the right balance; bold pieces of jewelry should not be worn in close proximity to each other, each piece should be allowed to stand-out, their shapes and sizes must relate to the personality of each woman and other accessories she is wearing.

Jewelry should be coherent with body size, the outfit and the occasion they are worn to; but above all; they must be consistent with the skin tone; this type of fashion accessories is worn right next to the skin, so it should blend with the complexion of the female wearer. Metals used in jewelry are the most important element; they should harmonize with the skin tone (e.g. silver for cool skin tones & gold for warm skin tones), moreover, gemstones must correspond to the natural colors of the hair and eyes.

So, although every woman must choose her pieces of jewelry based on what she loves and appeal to her; it is important to consider how their colors complement her skin tone, brightens her complexion and emphasize her natural coloring.

How to Choose Fashion Accessories & Jewelry

Accessories can sometimes be more important than the entire outfit, as they create the main attention point to the overall look, they are available in various materials with a wide price range, so almost every woman can afford to buy some accessories and pieces of jewelry that help her complete the look of her outfits.

Although every woman must choose accessories that express her style and personality, there are general rules that can help choose the best fashion accessories that really work for her look and enhance her image, some of these rules are:

- Accessories have worn close to the face (e.g. jewelry, scarves) should harmonize with the skin tone; their colors must be chosen according to the color palette of each season.
- If the color of the accessory contrasts with the skin tone, they can be worn away from the face (e.g. belts).
- In accessorizing; less is actually more; accessories mustn't be piled on, it is always better to wear few pieces that accent the skin tone and outfit.
- Accessories must be appropriate for age, time of day, occasion, and standards of society.
- Big accessories are best worn with simple clothes.
- Accessories should be in-balanced with each other; e.g. pairing large pieces with small pieces to avoid an overwhelming look.
- Accessorizing must be done in harmony; there should be a unifying element; such as color or theme; that link all pieces together.

- Multiple accessories shouldn't be too similar; for example; wearing a leopard print scarf with a leopard print bag and shoes will be too much.
- Accessories can add a sense of balance to the body, bright or bold pieces will draw attention to the good features away from the negative ones.
- Accessories can tie together two mismatched pieces of clothes; by choosing an accessory in a color that both clothing items have; this will make the outfit looks as it was chosen by intention.

Color Palettes for Different Skin Tone Types

Understanding how to wear the right colors for each complexion is an important tool that will help every woman dress stylishly and confidently in a much easier and effective way, "Every woman should know what colors are becoming to her; these will always be her subjective color as well as their compliments" (The Elements of Color, Johannes Itten, 1970).

The colors of clothing and fashion accessories are essential in creating an attractive appearance; flattering colors can brighten the skin and emphasize the color of the hair and eye, while unflattering colors can make the skin look drained, pale or unhealthy. The right color will make the face pop out pushing the color to the background; while the wrong color tends to pop out pushing the face into the background.

Choosing the colors that best compliment the unique skin tone of each woman brings out her beauty, because colors work best when they harmonize with the complexion, body type and personality of each woman, "you can color yourself beautiful in the truest sense of the word, with the beauty that comes from total harmony and satisfaction with yourself" (Carole Jackson, 1973).

Any woman can wear almost any color by choosing the right intensity, summer colors are cool and soft, while winter colors are clear and strong; spring colors are clear and delicate, while autumn colors are stronger and darker (figure 7). The first step is to determine whether the skin is warm- or cool-toned; then assess the natural color of eyes and hair against the skin to define the season that the skin tone falls in.



Figure 7: Color Palette According to the Four Season Skin Tone Classification

The following tables (1 – 4) sum the characteristics of different skin tone types; and provide a palette of the best colors for each one

Table 1: Characteristics and Best Colors for “Summer” Skin Tone


Season	Characteristics		Color Palette					
SUMMER	Skin tone	Cool	White	Soft white		Brown	Rose-brown	
	Undertone	Red, blue or pink	Black			Beige	Rose-beige	
	Veins	Blue or purple	Blue	All shades / pastels / red-blue / green-blue		Gray	Light to medium / blue-grey	
	Complexion	Soft, low contrast	Red	Blue-red / watermelon / raspberry		Navy	True navy / gray-navy	
	Eyes & hair color	Light shades	Yellow	Pale yellow / light lemon		Turquoise	True aqua / pastel aqua	
	Reaction to sun	Burns easily	Green	Blue-green / jade		Pink	Pastel pink / blue-pink / deep rose	
	Effect of jewelry	Silver	Orange			Burgundy	All shades	
	Skin 		Purple	Plum / mauve / lavender / lilac / soft fuchsia		Gold		
	Hair 		Go for	Rose & blue toned, cool, muted, soft, pastel, bright colors				
	Eyes 		Avoid	Dark shades, black, orange, gold				
	JEWELRY							
	Metals: silver / white gold / light gold / rose gold / platinum / pewter							
Gemstones: cinnamon diamond / opal / ruby / pearl / sapphire / aquamarine / pink topaz / Paraiba tourmaline								

Table 2: Characteristics and Best Colors for “Winter” Skin Tone







Season	Characteristics		Color Palette			
WINTER	Skin tone	Cool	White	True white	Brown	
	Undertone	Red, blue or pink	Black	True black	Beige	Taupe / icy taupe
	Veins	Blue or purple	Blue	True blue / icy-blue / royal blue	Gray	True grey / cool grey / charcoal
	Complexion	Sharp, high contrast	Red	True red / blue-red / Royal red	Navy	All shades
	Eyes & hair color	Dark shades	Yellow	Icy yellow / clear lemon	Turquoise	Hot turquoise / icy aqua
	Reaction to sun	Burns easily	Green	True green / light green / emerald	Pink	Bright pink / hot pink / icy pink / magenta / fuchsia
	Effect of Jewelry	Silver	Orange		Burgundy	Bright burgundy
	<div><div>Skin</div></div> <div><div>Hair</div></div> <div><div>Eyes</div></div>		Purple	Royal purple / mauve / Icy violet	Gold	
			Go for	Grey toned, cool, clear, sharp, primary, icy colors		
			Avoid	Muted shades, brown, beige, gold, orange, orange-red		
						
JEWELRY						
Metals: silver / white gold / light gold / rose gold / platinum / pewter						
Gemstones: sapphire / diamond / emerald / ruby / zircon / amethyst / tanzanite / onyx						

Table 3: Characteristics and Best Colors for “Spring” Skin Tone


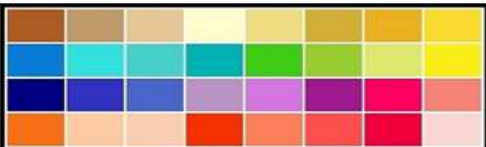


Season	Characteristics		Color Palette			
SPRING	Skin tone	Warm	White	Ivory	Brown	
	Undertone	Yellow, peachy or warm pink	Black		Beige	Golden brown / camel / rust
	Veins	Green or olive	Blue	Light royal blue / bright blue / cobalt blue	Gray	Yellow-grey
	Complexion	Delicate, low contrast	Red	Clear red / orange-red / lemon-red / coral	Navy	Light clear navy
	Eyes & hair color	Light shades	Yellow	True yellow / bright yellow / ochre	Turquoise	Medium turquoise / clear aqua
	Reaction to sun	Tans easily	Green	Green / spring green / yellow-green / lime	Pink	Yellow-pink / peach / light pink
	Effect of Jewelry	Golden	Orange	Light orange / apricot / coral	Burgundy	
			Purple	Medium violet / blue-violet	Gold	Clear gold
			Go for	Orange & yellow-toned, warm, clear, bright, fresh colors		
			Avoid	Muted, dark shades, black-white contrast, black, burgundy		
						
	JEWELRY					
Metals: gold / copper / brass / rose gold / bright gold						
Gemstones: sapphire / diamond / emerald / ruby / Mexican matrix opal / yellow diamond / mandarin garnet / alexandrite						

Table 4: Characteristics and Best Colors for “Autumn” Skin Tone

Season	CHARACTERISTICS		COLOR PALETTE			
Autumn	Skin tone	Warm	White	Creamy white	Brown	All shades / camel
	Undertone	Golden, orange or brown	Black		Beige	Gold-tone beige / caramel
	Veins	Green or olive	Blue	Teal blue	Gray	
	Complexion	Vibrant, low contrast	Red	Dark red / orange-red / maroon	Navy	
	Eyes & hair color	Dark shades	Yellow	Gold-yellow / mustard	Turquoise	Turquoise
	Reaction to sun	Tans easily	Green	Yellow-green / lime / olive / jade / forest green	Pink	
	Effect of Jewelry	Golden	Orange	All shades / pumpkin / rust	Burgundy	
			Purple		Gold	All shades
			Go for	Earthy-toned, warm, rich colors		
			Avoid	Cool shades, blue toned, black, purple, burgundy, pink, gray		
	JEWELRY					
						
		<p>Metals: gold / copper / brass / rose gold / bright gold</p> <p>Gemstones: blue topaz / citrine quartz / emerald / topaz / jade / jasper / morganite / peridot</p>				

RESEARCH RESULTS

- Identifying the skin tone of each woman to recognize the colors that suit her best; will help her discover what actually looks great on her and evolve her taste to become more refined and stylish.
- Choosing the right colors for each skin tone can brighten the complexion, make the female wearer look more attractive and create a visual balance for her body.
- Understanding how to wear the right colors is an important tool to help every woman dress easily, stylishly and confidently; and to build a wardrobe of colors that harmonize with her complexion.
- Colors alone do not give style, but they can help make correct fashion choices, every woman should experiment with colors to determine which suit her own personal coloring and express her style and individuality.
- The best color palette for each woman is determined according to her skin tone, eye color, and natural hair color.
- Any woman can wear almost any color, taken into consideration its proximity to her face and that it has the appropriate shade or hue.
- Fashion accessories and jewelry will look best if they match each woman's complexion to enhance her natural coloring.
- Fashion accessories allow wearing colors that aren't in the seasonal color palette; they give the chance to wear different colors even if they don't match the skin tone.
- No outfit is complete without accessories, but they should blend with it; no accessory should be so bold that it detracts attention from the total look.
- The key in accessorizing is to keep it simple, fashion accessories are intended to add to the attractiveness of a woman; not to overwhelm her.
- When chosen carefully; accessories can create different looks with the same clothing items to be worn on different occasions.
- With their unlimited choices, accessories can be adapted in various ways to state each woman's style; learning the basic rules for accessorizing will help bring out the best features of her wardrobe.

CONCLUSIONS

Identifying skin tone type is the first step to achieve the best look; as each type has a unique color palette which is an important tool that helps every woman choose the appropriate outfit with all its elements; clothing items, jewelry and fashion accessories.

REFERENCES

- 1- Carole Jackson, "Color Me Beautiful", Publisher: Acropolis Books Ltd., 1973.
- 2- Sandra Curtis Lasky, "In Your Fashion", Publisher: ProQuest LLC., 1988.
- 3- Ferial Youakim, "The Universal 4x4 Color analysis TM", ByFERIAL Image Consulting & Training, Florida, USA, 2014.

- 4- Susan Wright, Extension Clothing and Textiles Specialist, "Determining Personal Colors", Guide C-315, online paper, revised by J. Wendy Brown and Andrea Rojas, New Mexico State University, 2014.
- 5- Choudhary, Anshu Singh. "Investigation Of Consumers Waiting In Line At A Fashion Store."
- 6- Marjorie M. Baker, "Accessories: The finishing touch", online paper, College of Agriculture, University of Kentucky, Publication ID: FCS2-347, 2007.
- 7- Pam Sigler, Debra Cotterill & Kimberly Miller-Spillman, "Color is Key", online paper, College of Agriculture, Food & Environment, University of Kentucky, Publication ID: FCS2-844, 2011.
- 8- Linda M. Heaton & Karen Hicks, "Fashion Magic Wardrobe Planning, 4-H Clothing selection project series", Revised by Bette Jo Dedic, College of Agriculture, Food & Environment, University of Kentucky, Publication ID: 4JD-10PA, originally written in 1986.
- 9- Tyhesha Goss Elmors, "Colorism in the classroom: an exploration of adolescents' skin tone, skin tone preferences, perceptions of skin tone stigma and identity", thesis for the Degree of Doctor of Philosophy, University of Pennsylvania, 2009.
- 10- Julia Holmberg & Rebecca Öhnfeldt, "The female fashion consumer behavior", Bachelor thesis, University of Gothenburg, 2010.
- 11- Rahmadi Kurnia, Meza Silvana & Ikhwana Elfitri, Department of Electrical Engineering, Andalas University, Padang, Indonesia, "A skin and Clothes Matching Seeded by Color System Selection", Telkominika Indonesian Journal of Electrical Engineering, Vol. 14, No.3, June 2015.

